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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,055	04/20/2001	Josef P. Debbins	390086.94804	2341

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EXAMINER

STEELMAN, MARY J

ART UNIT

PAPER NUMBER

2191

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action  
Before the Filing of an Appeal Brief**

Application No.

09/839,055

Applicant(s)

DEBBINS ET AL.

Examiner

Mary J. Steelman

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**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 09 June 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.  
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☒ Applicant's reply has overcome the following rejection(s): See attachment.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: 1,2,5,7-13,15,16,21-25.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See attachment.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). \_\_\_\_\_  
13. ☐ Other: \_\_\_\_\_.

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In response to Remarks and amendment filed 9 June 2005:

1. In view of the remarks regarding the Specification, the prior objections to the Specification are hereby withdrawn.

2. Claim 13 has been amended. The amendment will be entered. In view of the amendment, the prior 35 USC 112 2<sup>nd</sup> paragraph rejection is hereby withdrawn.

3. Applicant has argued, in substance, the following:

(A) In reference to claim 1, Williams (USPN 5,850,548) discloses (Remarks, pg. 9, 2<sup>nd</sup> paragraph) a computer system having a Visual Development Environment...not for implementation with real time systems.” Schneider (USPN 6,718,533) does not disclose (Remarks, pg. 9, last paragraph) “serializing and downloading an executable application segment to the medical imaging system to modify the executable application in real time. Schneider, rather, suggests that the entire set of components and a map of the entire system be downloaded, and then linked, before execution can begin.”

Examiner's Response:

Williams disclosed a visual development environment for programming with components and connections. Williams disclosed that the application could be modified in real-time (col. 12, lines 46-56 & col. 21, lines 17-20 – component add methods). Williams failed to disclose that

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the program could be used for medical imaging and that the completed application could be serialized and downloaded for execution.

However, Schneider disclosed a development tool using object oriented modeling that (col. 4, lines 44-45) “supports design; development; execution; test and maintenance. At col. 4, lines 52-60, “...the present invention is advantageous for developing software for real-time electromechanical systems...can also be used for ...medical imaging....” Schneider disclosed, col. 10, lines 7-11, “FIG. 2 illustrates an example of a real-time application according to one embodiment of the present invention. In a typical scenario, a **real-time** system is created on a development station using development tool and is then **downloaded to a real-time** computer (download the executable application to the medical imaging system) for execution.” (emphasis added) Also, col. 31, lines 49-55, “Once a system diagram has been created...the compiled components are loaded onto the real-time computer...These compiled code files provide executable code for each of these components.” Schneider disclosed, col. 9, lines 51-53, “Development tool may be implemented in any suitable programming language; the JAVA programming language (**object oriented**) has been found to work well.” (emphasis added), col. 10, lines 21-24, “...components and system diagram files are downloaded over a network connection (downloading the executable application segment )...” Serialization is the process of creating a byte stream for the purpose of transmitting byte code (a component for serializing and downloading) and thus would be obvious when transmitting code written in JAVA programming language in the download process.

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention to have modified Williams’ invention of program development to include

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downloading a serialized component when developing an application that could include medical imaging, as taught by Schneider because both inventions deal with application development using components, allowing for reusable software (Schneider: Col. 5, line 65) and providing an (Schneider: Col. 6, lines 1-2) “intuitive approach to developing systems...”

(B) In reference to claim 13, Applicant has argued (Remarks, pg. 19, 3<sup>rd</sup> paragraph) “none of the cited references disclose a medical imaging system in which selected segments of an application program can be changed in real time and downloaded to revise the application in real time.

Examiner's Response:

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5602934 to Li et al., in view of US Patent 5,850,548 to Williams, and further in view of US Patent 6,173,438 B1 to Kodosky.

Li is relied upon for disclosing a ‘medical imaging system’/ MRI.

Li failed to disclose:

-a workstation coupled to the application server for downloading program elements to the pulse sequence server to drive the FR coil and the gradient coil assembly, the workstation including a graphical application development system for graphically assembling object-oriented components to provide a waveform of control pulses for driving each of the gradient coils and

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the RF coil having a display, an input device and a processor programmed to perform application development functions, the application development program including:

-a graphical building area for displaying icons representing components in the component library and responsive to directions from a user entered through the input device to selectively graphically link icons to assemble the components into executable medical imaging applications and to selectively modify the links during operation of the medical imaging applications to produce and download executable program segments which modify the medical image application in real time.

However, Williams disclosed a graphical application development system (col. 2, line 21, col. 2, lines 30-31)) for graphically assembling object-oriented code. Col. 5, lines 38-39, "Components can be constructed with a conventional programming language, such as C++ (object oriented)...") components. Williams disclosed a 'library' of components (col. 3, lines 61-63). Williams' invention is generic and broadly disclosed the graphical generation of code for any type of system. Any type of software system may be developed, dependent on the types of components used. Williams disclosed a "graphical building area for displaying icons representing components (col. 5, lines 11-15). Williams disclosed that a developer / user may selectively graphically link icons to assemble components (col. 5, lines 46-47). Williams disclosed modifying the links (col. 12, lines 45-56, "user may now refine the model... Other visual components may be added... As the system is live (real-time)..."

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The Li / Williams combination failed to disclose “downloading program elements...”/

“download executable program segments which modify the...application in real time...”

However Kodosky disclosed a graphical programming system that included components, suitable for downloading (col. 3, lines 62-64). Col. 9, lines 29-32, “The memory media also **stores computer programs** (program components) **according to the present invention which are executable to download a graphical program for execution** (for downloading an executable application segment) **on an embedded system coupled to the computer system.**”

(emphasis added) Col. 22, lines 40-45, “The present invention includes a mechanism for embedded LabVIEW to load DLLs (library of components) and to invoke or call functions in DLLs. These DLLs may be generated by the native development tools (specifically the linker) provided by the real-time operating system used in the embedded system, or by development tools used for desktop computer systems...”, col. 22, lines 59-60, “...the embedded system requests the DLL from the host system...”

Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention to have modified the Li invention, which disclosed the MRI system, by including Williams’ invention of program development which could develop a program to control an MRI, because Williams graphical development invention broadly may be used to develop any type of control software, dependent on the components linked into the application. Williams: col. 2, lines 34-36, “programs are constructed entirely out of components which communicate via connections.”, Williams: col. 1, lines 54-55, “visual programming environments...let users put

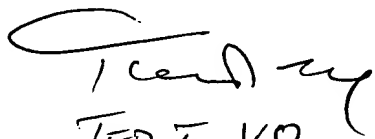
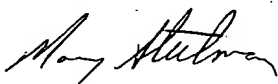
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more effort into solving their particular problem..." The complexity of MRI software would suitably be simplified by developing the program using a visual programming environment.

And to further modify the Li / Williams invention by including details from Kodosky regarding downloading the developed program or modified components, because, of course, downloading and executing the developed software is the ultimate goal of developed software. Kodosky (col. 1, lines 45-55), like Williams (col. 1, lines 49-51), broadly disclosed a graphical development program that could be used to develop and modify any type of software, including software to operate a medical imaging system, as disclosed by Li.

4. Examiner maintains the rejection of claims 1, 2, 5, 7-13, 15, 16, and 21-25.

Mary Steelman  
07/07/2005



TED T. VO  
primary examiner